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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/567,068	02/03/2006	Martin J. Edwards	14509-0138US1 / P080486SE	9468

26161 7590 04/01/2009

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EXAMINER	
SITTA, GRANT	

ART UNIT	PAPER NUMBER
2629	

NOTIFICATION DATE	DELIVERY MODE
04/01/2009	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

PATDOCTC@fr.com

Office Action Summary	Application No.	Applicant(s)	
	10/567,068	EDWARDS, MARTIN J.	
	Examiner	Art Unit	
	GRANT D. SITTA	2629	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *03 February 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-5* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-5* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *03 February 2006* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *2/03/2006*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

3. Claims 1-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Edwards et al (2002/0054005), hereinafter Edwards, in view of Park et al (6,160,535) hereinafter, Park.

4. In regards to claim 1, Edwards discloses the limitations of an active matrix display device comprising a row and column array of picture elements [0001], sets of row and column address conductors for selecting rows of picture elements (fig. 1 18 and 19) and providing data signals to the picture elements of a selected row respectively (fig. 1 25 and 21), drive means for supplying selection signals and multi-bit digital data signals [0002] respectively to the set of row address conductors and the set of column address conductors (fig. 7 18 and 19), in which the multi-bit digital data signals supplied

to the column address conductors are converted into analogue voltage [0001-0003, 0006] levels for use by the picture elements by a plurality of serial charge redistribution digital to analogue conversion means [0003, 0009-0012], each conversion means comprising at least first and second capacitances interconnectable by at least one conversion switch (fig. 7 (31A and 31B)) and between which charge is shared, and in which the first and second capacitances of a conversion means are provided by the capacitances of two column address conductors [0021-0028]

Edwards differs from the claimed invention in that Edwards does not expressly disclose wherein the picture elements in a column are of the same colour and adjacent columns of picture elements are of different colours, and wherein the first and second capacitances of a digital to analogue conversion means comprise column address conductors associated with the same colour of picture elements.

However, Park teaches a system and method wherein picture elements in a column are of the same colour and adjacent columns of picture elements are of different colours (fig. 3A S1 is R and adjacent in S2 G), (col. 3, lines 13-37 of Parks).

It would have been obvious to one of ordinary skill in the art, at the time of the invention, to modify Edwards such that the picture elements in a column are of the same colour and adjacent columns of picture elements are of different colours as taught by Parks in order to drive a color display with reduced power consumption, since each column of color can be addressed together, as stated in (col. 2, lines 22-45 of Park) and to decrease circuit complexity for ease of manufacturing.

Therefore, Edwards as modified by Park teaches and wherein the first and second capacitances of a digital to analogue conversion means (fig. 7 31A and B, 19, 18 [001-003] Edwards) comprise column address conductors associated with the same colour of picture elements (fig. 3A S1 is R and adjacent in S2 G, col. 3, lines 13-37 of Parks).

5. In regards to claim 2, Edwards as modified by Park teaches an active matrix display device according to claim 1, wherein the two column conductors of a conversion means comprise adjacent column conductors associated (fig. 8 32 is connected to more than multiple columns Edwards) with the same colour picture elements (fig. 3A S1 is R and adjacent in S2 G), (col. 3, lines 13-37 of Parks).

6. In regards to claim 3, Edwards as modified by Park teaches an active matrix display device according to claim 1, wherein for each conversion means the picture elements in a row associated with the conversion means are connected to different row address conductors (fig. 1 18 for each row Edwards).

7. In regard to claim 4, Edwards as modified by Park teaches an active matrix display device according to claim 3, wherein the picture elements in a column are connected alternately to the different row address conductors (fig. 1 and 7 18 Edwards). Examiner notes they are all connected to different row address conductors.

8. In regards to claim 5, Edwards as modified by Park teaches an active matrix display device according to claim 1, wherein the device comprises a liquid crystal display device (abstract AMLCD or active matrix LCD Edwards).

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Edwards et al (5,923,311) matrix display device

Shiba et al (6,075,505) two odd and even pixels are commonly connected.

Hebiguchi et al (6,583,777) pixels electrodes being provided at both sifes of the data line.

Edwards et al (5,448,258) active matrix display device.

Nakajima et al (6,157,358) commonly connected column lines.

Matsueda et al (6,380917)

Fujiyoshi et al (6,552,707) common color columns.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to GRANT D. SITTA whose telephone number is (571)270-1542. The examiner can normally be reached on M-F 9-6.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sumati Lefkowitz can be reached on 571-272-3638. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Sumati Lefkowitz/
Supervisory Patent Examiner, Art Unit 2629

/Grant D Sitta/
Examiner, Art Unit 2629
March 20, 2009